

ASX:NRT  
NASDAQ:NVGN

Novogen Ltd  
(Company)

ABN 37 063 259 754

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### Capital Structure

Ordinary Shares on  
issue:

423 M

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### Board of Directors

**Dr Graham Kelly**  
Chairman &  
Executive Director

**Steve Coffey**  
Non-Executive Director

**John O'Connor**  
Non-Executive Director

**Prof Peter Gunning**  
Non-Executive Director

**Ian Phillips**  
Non-Executive Director

**Bryce Carmine**  
Non-Executive Director

## ASX RELEASE

24 June 2015

### GENERAL MEETING – CHAIRMAN'S ADDRESS

Dear Shareholders,

The Company is in a solid financial position. With \$45M in cash, and the very real prospect of another \$33M by the end of the year via short-term warrants, our shareholders have given the Company the opportunity it asked for to prove the merit of its two technology platforms.

Novogen has a boldly ambitious objective...to bring both technology platforms together in a complementary way to provide the most effective level of anti-cancer therapy across most forms of cancer yet achieved.

What we are striving for goes well beyond the modest levels (average 5 months) of survival benefit achieved over the past 15 years with targeted chemotherapies such as Herceptin and Avastin, and the low (about 20%) response rates in certain cancer types achieved with the current crop of immuno-oncology drugs despite high rates of debilitating side-effects.

Our target is durable remission across most forms of cancer for most patients; where cancer is reduced to the same status as any other degenerative disease, such as rheumatoid arthritis.

After relying on cytotoxic chemotherapy to do the heavy-lifting in cancer therapy for the past 40 years, much of the pharmaceutical world has gone off in search of new forms of therapy such as cancer vaccines, gene therapy and gene silencing, driven by the fact that cytotoxic chemotherapy appears to have hit a wall:

- with little or no effect in many forms of cancer;
- with individual patient response rates varying enormously;
- with high rates of toxicity limiting dosages to sub-optimal levels;
- with most cases of malignant cancer relapsing even where there is an initial response;
- with tumors readily developing resistance to cytotoxic drugs.

Cytotoxic chemotherapy is working.....just not very well.

Combine this with the fact that no new significant cytotoxic drug has come to market in the last 20 years, and the search for alternative forms of chemotherapy becomes rational.

Novogen believes that there is another more rational and more practical approach. And that is to make cytotoxic chemotherapy WORK...not just work better...but to make it work the way we would want it to.

Take the case of a man with metastatic castrate-resistant prostate cancer. His remaining approved option is the cytotoxic drug, docetaxel. He has a 30% chance of responding, with that response delivering on average about a 6-8 month increase in survival. That means that 7 out of 10 men treated with docetaxel get no benefit, despite still getting significant adverse side-effect of therapy.

Our aim is to use our two technologies to increase both the response rate and the average duration of response to something far more meaningful. Prostate cancer is one of the clinical indications we have in mind, but the point being made here is that regardless of the indications, there is substantial room for improvement.

With the level of funding we now have behind us, we now have the means to get into the clinic to test that belief.

I don't need to remind shareholders that an investment in biotechnology is binary...it either works or it doesn't....there isn't much in-between. The difference between Novogen and the majority of other biotech companies is that a positive outcome with either of the Novogen technology platforms could transform chemotherapy. Our technologies are not intended to treat a subset of patients with one particular form of cancer; they are meant to treat most patients with most forms of cancer.

So, to the specifics of what we are doing about reaching this goal.

Starting with **Anisina**. We made an announcement this morning about this drug candidate. We described how well it performed in mice bearing human melanoma tumors, significantly slowing the growth of a highly aggressive tumor. The drug worked equally well when given orally or intravenously. That was the trigger to bring Anisina into the clinic in 2016, with an enrolment target date of 2Q16.

This will be a standard first-in-man Phase 1 study using patients with a variety of cancers. This clinical study, like most of our planned Phase 1 studies, will be conducted in Australia. The Australian Government's 45 cents in the dollar R&D Rebate Scheme makes conducting clinical studies in Australia highly cost-effective. Some Phase 1 studies will be conducted under an IND in the US, and for all pipeline drugs, all subsequent studies beyond Phase 1 will involve US sites. But where possible, we will be starting in Australian hospitals.

The Phase 1 study will see Anisina being given intravenously as a monotherapy to patients with a broad range of cancers who are being treated on a salvage basis. The compound's safety profile, the highest dose that we can safely administer, and its pharmacokinetic and pharmacodynamics characteristics will all be monitored.

In a parallel program, Anisina also is coming into the clinic for the treatment of solid cancers in children, particularly neuroblastoma. That study will be conducted in both the US and Australia, and is something that we will be explaining in more detail shortly. Suffice to say at this point, that the prospect of being able to offer

cytotoxic chemotherapy to young children with a reduced prospect of leaving them with a lifetime's legacy of serious developmental side-effects is of major interest.

Now on to **Cantrixil**. This is the first of our oncology pipeline that will enter the clinic. Late this year or early next year is when the Phase 1 trial is expected to open. That date is largely in the hands of the hospital ethics committees that will be reviewing the clinical trial protocol that we hope to have lodged in October 2015.

Cantrixil is the product being developed by CanTx Inc, our joint venture company with Yale University. This has been developed as a purpose-built, intra-cavity chemotherapy. The three target cavities are the peritoneal cavity, the pleural cavity and the bladder. Cancers of these cavities are difficult to treat because of the difficulty in achieving meaningful drug levels within the cavity via the bloodstream. And instilling cytotoxic drugs directly into these cavities is an option, but not widely used because of the high risk of damage to healthy tissues.

The ultimate primary goal of Cantrixil is first-line therapy for patients with any cancer arising in the abdominal cavity, but ovarian cancer in particular. The rationale of Cantrixil is to deliver high doses of TRXE-002 where they are needed to track down and kill the tumor-initiating cells that are spreading out from the primary cancer and which are responsible for the multitude of secondary cancers that eventually become so difficult to treat. This is the scenario that the Yale animal model of ovarian cancer was designed to replicate and in which Cantrixil proved to be so effective.

We will move Cantrixil in that setting just as soon as we can. But for the moment, we are obliged to test an experimental drug in patients who have no standard treatment options remaining. And that means using patients with late-stage abdominal cancers. For many of these heavily pre-treated patients, Cantrixil will be at least their 8<sup>th</sup> -12<sup>th</sup> line of chemotherapy.

But rather than just using these patients as a necessary stepping stone to eventually testing in 1<sup>st</sup> line therapy, our oncology advisors raised the possibility that we had developed a product that might offer clinical benefit for a large cohort of cancer patients for whom no effective current therapies exist. These are patients with late-stage cancers involving the peritoneal and pleural cavities where the presence of a large tumor load has resulted in the accumulation of large volumes of fluid. In the case of the abdomen this is known as *malignant ascites* and in the case of the chest, *malignant pleural effusion*.

We are starting with malignant ascites. Management of these patients is palliative. It generally involves regular removal of the fluid by a process known as paracentesis. This serves only to make patients as comfortable as possible in their final months. Cantrixil will be infused into the peritoneal cavity of patients following paracentesis and the modest marker of any clinical benefit will be our ability to extend the interval between paracentesis.

And lastly to **TRXE-009**. This drug candidate came off the drawingboard as a potential treatment for primary brain cancer, but has grown to become our general-purpose product intended to treat all forms of cancer.

The brain cancer focus came from early in vitro studies showing a high level of killing of glioblastoma cells, including glioblastoma stem cells, followed by the same level of activity against a form of pediatric brain cancer known as diffuse intrinsic pontine glioma (DIPG).

We then set about developing a strategy to ensure that we could deliver TRXE-009 across the blood-brain barrier at the sort of levels required to kill cancer cells. That led to the development of a proprietary lipid nanoparticle delivery system that we are satisfied will meet that objective. The status of this project is that we currently have engaged a consultant company to optimize this construct in order to facilitate its large-scale manufacture. We anticipate that process taking another several months, at which point we will commence the path into the clinic.

I am not going to speak here of Operation Jacob Hope, a catch-all program that is looking at the application of our super-benzopyran technology platform to non-oncology indications. Time doesn't permit that, but I can report that you will be hearing more of this exciting series of drug development programs in the months ahead.

I want to finish by acknowledging that none of this is possible without two groups of people.

The first group is the Novogen staff. It starts with Andrew Heaton who made the rebirth of Novogen possible by his discovery of the super-benzopyran technology platform. Andrew leads a team of chemists who come up with the design of new molecules that is the core of this Company's asset – its intellectual property in the form of its growing patent portfolio. David Brown, our CSO, then has the task of converting that asset into practice, and the team that David leads are among the finest and most dedicated scientists it has been my pleasure to work with.

Finally, our hard-working COO/CFO, Cristyn Humphries who provides the infra-structure to make all of this possible.

The second group is you, the shareholders. Your willingness to entrust us with your money in my view ranks with our IP as our two greatest assets.

We have a mighty big mountain ahead of us to climb. There will be the inevitable challenges along the way, but with patience and perseverance I have no doubt we will get there in the end. The next 2 years are going to be anything but dull. Enjoy the ride.

Yours faithfully,

Dr Graham Kelly

### **About Novogen**

Novogen is a public, Australian-US drug development company whose shares trade on both The Australian Securities Exchange (NRT) and NASDAQ (NVGN). The Novogen group includes US-based, CanTx Inc, a joint venture company with Yale University. Novogen has two drug technology platforms yielding drug candidates that are first-in-class with potential application across a broad range of degenerative diseases. In the oncology field, the ultimate objective is to see both drug technologies used in combination as first-line therapy across most forms of cancer, with the objective of preventing tumor recurrence. This objective is based on a strategy of achieving comprehensive destruction of the full hierarchy of cells within a tumor with the super-benzopyran technology platform killing the tumor-initiating cells and the anti-tropomyosin technology, combined with vinca alkaloids, to deliver a potent chemical debulking effect on their daughter cells.

For more information, please visit [www.novogen.com](http://www.novogen.com)

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